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California Building Industry Association

Robert E. Raymer, P.E.
Technical Director/Senior Advocate

1215 K Street, Suite 1200
Sacramento, CA 95814
916/443-7933 ext. 322
cell 916/812-1900
fax 916/443-1960
rraymer@cbia.org

Possible Cost-Offsets And Incentives For Residential Photovoltaic (PV) Energy Systems

A clear societal benefit of the installation of PV energy systems on new residential housing is the reduction or removal* of the homes' electrical demand from the State's energy grid. This is especially true during the "peak power" needs of summer and early fall.

Unfortunately, on an individual basis, a PV energy system is rarely cost-effective for a new homebuyer in California. This is due almost entirely to the success of the state's very stringent energy efficiency standards. At the present time, California's energy efficiency standards are approximately 30% more stringent than those required at the federal level, and California's standards will get even tighter in the fall of 2005. This being the case, a new home in California simply does not use enough electricity to make a $16,000 to $20,000 PV energy system pencil out (i.e. finance payments of $150 a month to save $50 a month in reduced electrical bills). In order to make the system economically viable for the new homebuyer, one or more economic "offsets" or "incentives" must be available.

To accomplish this, one or more of the following concepts could be incorporated into a local, voluntary pilot program that is intended to promote increased installation of residential photovoltaic energy systems through the use various economic incentives. **The 60+ jurisdictions that have already partnered with the Building Industry Institute by taking part in BII's Community Energy Efficiency Program (CEEP) would be a good place to start when looking for cities and counties interested in promoting energy efficiency via market based incentives.**

1. **Direct Financial (cash) Incentives:** These have long been used by government to help ease the transition of new, energy efficient and energy producing products into the market. These are also extremely costly and given the current state of the budget, it is highly unlikely that such funds would be made available for a substantial increase in the current application levels. For example, a 50 % state grant to cover the cost of the average PV energy system for a new home would be $10,000. To cover just 100,000 homes per year (roughly 50% of projected market in 2004), the cost to the state would be $1.0 billion dollars per year. At the present time, the state rebate program has assisted industry in the installation of some 1,100 PV systems in new residential construction for each of the past two years. **Unfortunately, the state program is over-subscribed for 2004 and is effectively out of funds.** The state will address the "reauthorization" of this fund starting in 2006; however, given past funding levels, this fund can only cover about 1% of the new homes built each year.

2. **Local Planning & Land Use Procedures:** It might also be desirable to seek statutory change that will allow for "administrative incentives" at the local level when PV energy systems are installed on new homes within the jurisdiction. These could include such incentives as:
   - CEQA Process Reform: Have housing projects approved on a ministerial basis providing the project is consistent with the existing general plan, zoning, design and local/state building standards.
   - Expediting local land use and permitting approvals
   - "Lot bonus density increases": this would be desirable in those circumstances where the local jurisdiction has placed a density limit on a given development that is less than that desired by the land owner/developer.

3. **Local Fee Reductions:** Across the state, local cities and counties are commonly charging tens of thousands in local fees related such infrastructure items as local schools, parks, water, sewers and transportation. The Department of Housing and Community Development 2001 report "Pay to Play" is attached.

4. **Energy Efficient Mortgages:** The Administration could aggressively work with the lending institutions to "encourage" the establishment of an "energy efficiency/energy production" mortgage package that is tailored towards promoting homes constructed with a PV energy system.

5. **Inclusionary Zoning:** Across the state, many local jurisdictions have attempted to address the need for low- and moderate-income housing through "inclusionary zoning" ordinances wherein a percentage of units in a development are required to be offered at or below a specific price range. While the intent of such ordinances is to provide housing that is affordable to those who could not otherwise purchase such units in a particular project/area, the "decrease" in cost of such a unit is simply borne by the homebuyers of the other dwelling units. This can easily add tens of thousands of dollars to the price of a single unit.

6. **Liability Protection:** The top issue confronting the construction industry for the past six years is construction defect litigation and the need to vastly improve the way in which construction disputes are resolved. Industry needs to feel comfortable that the PV manufacturers will stand behind the entire PV system (not just the panels) for a substantial period of time (20+years). At the present time, the inverter component (turns DC into AC) needs to be replaced after 4-5 years of use. Clearly, this is not good and is an issue that needs to be addressed quickly.

7. **CEC Energy Efficiency Standards Compliance Credit:** *NOTE: This item is included since it has been listed as a possible cost-offset in the current version of SB 1653 (Murray).* It has been suggested by some in the Legislature that the Energy Commission should modify their Residential Energy Efficiency Standards to allow for some amount of "partial energy efficiency compliance credit" that could be used when a PV energy system is installed. The partial compliance credit in turn would result in a lower cost of compliance with the CEC's energy efficiency standards and this reduced cost of compliance could be used to offset the cost of installing the PV energy system. **The CEC, environmental groups and industry will strongly oppose such an offset at present, saying that rolling back other cost-effective energy efficiency measures is a step in the wrong direction. The enactment of such a change will most likely take a very long (not to mention contentious) administrative rulemaking. This also seems contrary to the longstanding state policy of supporting cost-effective measures in new construction.**